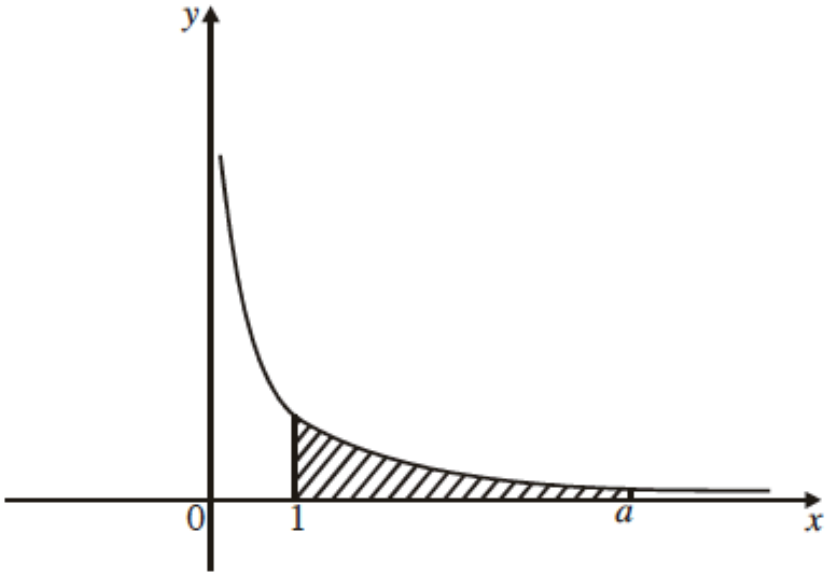
NAME:_____ DATE: 09/04/15

ASSIGNMENT: Integral Area

The diagram shows part of the graph of $y = \frac{1}{x}$. The area of the shaded region is 2 units.

1.)



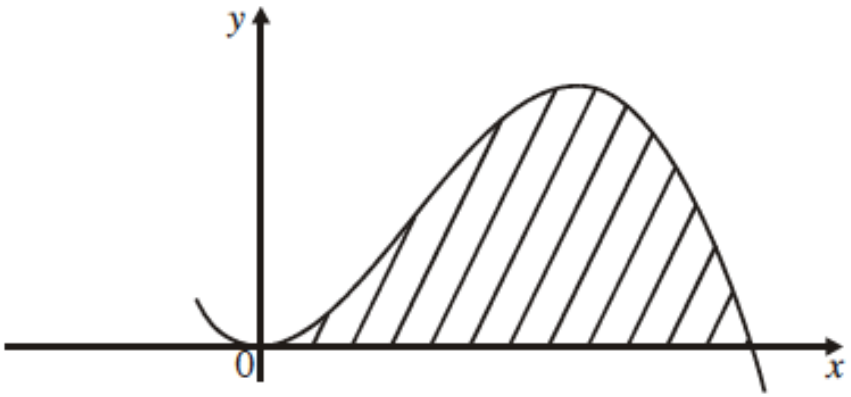
Find the exact value of a.

_____

_____

The diagram shows part of the graph of $y = 12x^2(1-x)$.

2.)



(a) Write down an integral which represents the area of the shaded region.

(b) Find the area of the shaded region.

_____

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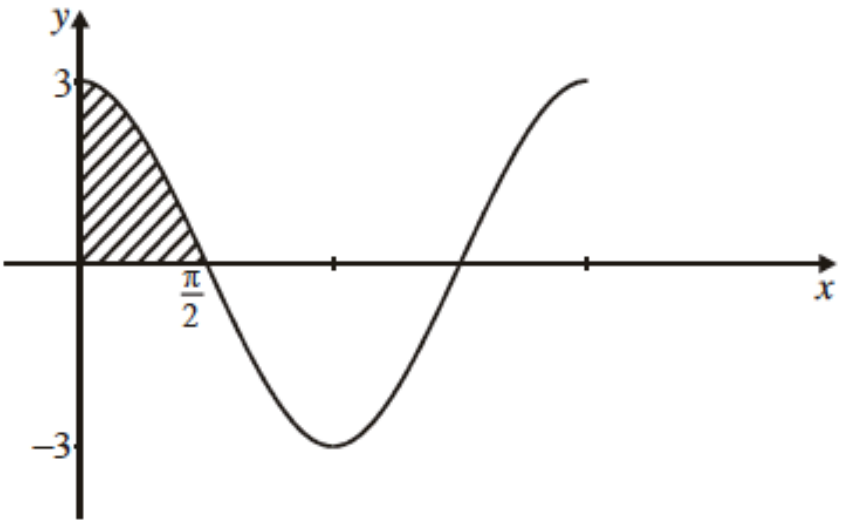
3.)

The graph represents the function

$$f : x \mapsto p\cos x, p \in \mathbb{N}.$$



Find

(a) the value of p;

(b) the area of the shaded region.

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Answer key: (show all calculations to receive full marks)

Please try doing these by hand first. These are all examples of non-calculator problems.

1) $a = e^2$

(remember the logarithm properties; same base subtraction results in input division)

2a) $\int_0^1 12x^2(1-x)dx$

2b.) 1

3a.) I believe in you! Draw out your unit circles and start testing the coefficient.

3b.) 3